Washington State Department of Health

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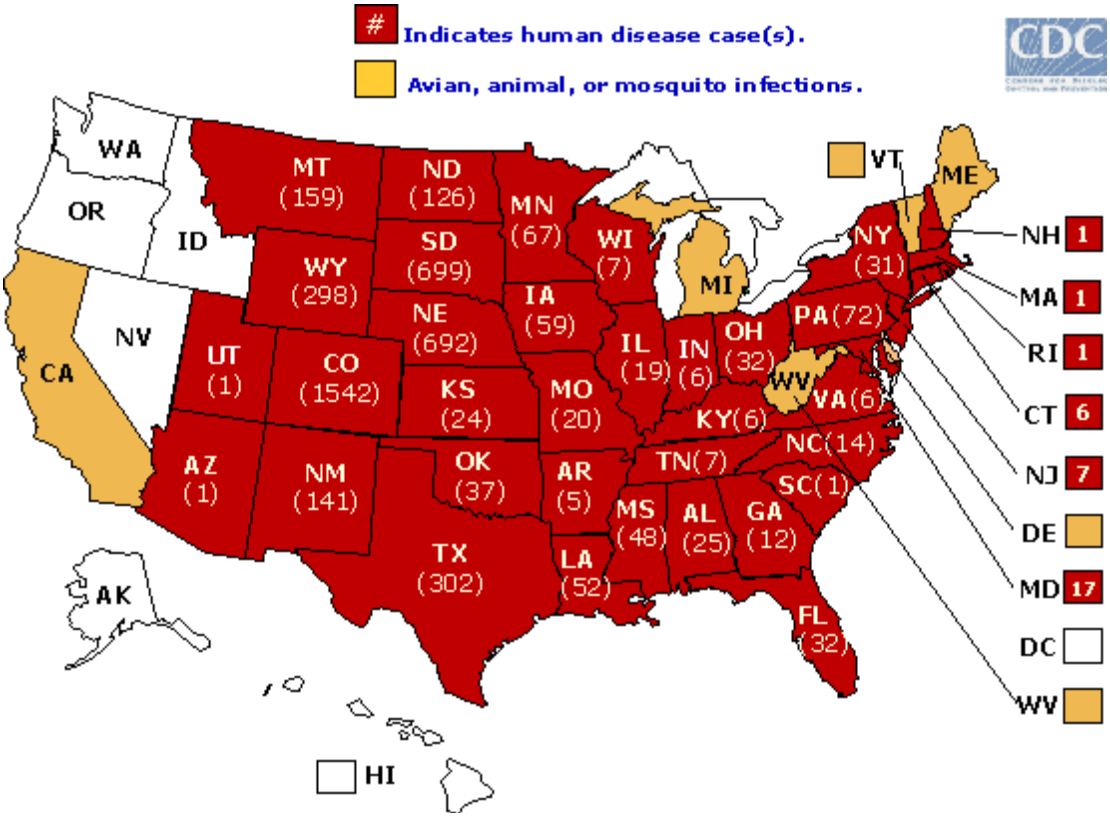
West Nile Virus Newsletter

This is an electronic publication designed to keep you informed on issues of interest related to West Nile virus (WNV) in Washington, and provide current information to assist you in developing a response plan to WNV in your jurisdiction.

Surveillance News

West Nile Virus in the United States as of September 22, 2003



The above map shows the distribution of avian, animal, or mosquito infection during 2003 with number of human cases if any, by state. If WNV infection is reported to CDC Arbonet in any area of a state, that entire state is shaded accordingly.

These are cases reported to CDC Arbonet for public distribution of avian, animal, or mosquito infection reported as of September 22, 2003 and include: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

Human disease cases have been reported in Alabama, Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Wisconsin, and Wyoming.

Additional information about WNV activity is available from CDC at http://www.cdc.gov/ncidod/dvbid/westnile/index.htm and http://www.cindi.usgs.gov/hazard/event/west_nile/west_nile.html.

California:
West Nile virus infected crow found in Los Angeles County

A dead crow found in the suburbs east of Los Angeles tested positive for WNV, health officials said on Monday September 15, 2003. The crow, found in the San Gabriel Valley, was submitted for testing on September 3, 2003. It was the first time the virus has been found in an animal (vertebrate) this year in Los Angeles County, home to nearly 10 million people. Virus infected mosquitoes have been discovered in Imperial and Riverside Counties.

No locally acquired human cases have been reported in California in 2003, although two women came down with the disease in Alameda County. Health officials said they contracted the virus while traveling out of state. In 2002, California officials reported a lone case in a Los Angeles woman, who recovered. It remains unclear how she was infected.

Researchers study drought, West Nile virus

The worst outbreaks of WNV seem to follow summer droughts preceded by mild winters, a pattern researchers are studying as a possible way to predict where the virus might hit hardest. "Drought is where this is focused," says Paul R. Epstein of the Center for Health and the Global Environment at Harvard Medical School. Though Epstein sounds convinced, other researchers say more work is needed.

The complete article can be found at http://seattlepi.nwsource.com/printer/ap.asp?category=1501&slug=West%20Nile%20Drought

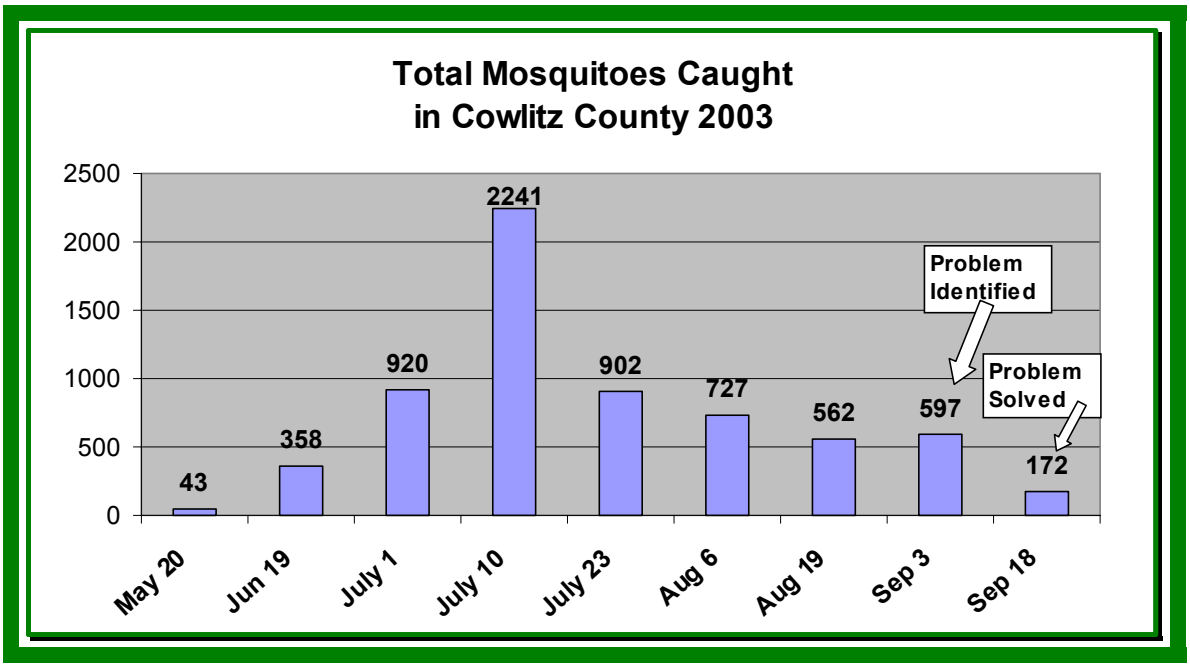
Local Focus - Cowlitz County Mosquito Control District, 2003 Adult Mosquito Surveillance Program

Prepared by: Del Gilkerson, Cowlitz County Mosquito Control District, Program Coordinator

The Cowlitz County Mosquito Control District has conducted an intensive trapping and species identification program for the past six years. Trapping is done every two weeks during the mosquito season. This year the district more than doubled its' efforts. On nine separate nights in 2003, 148 traps were placed in various locations throughout the county. This resulted in the capture of 6,522 mosquitoes. District staff also compiled and submitted 30 pools for WNV and other virus testing. All pools tested negative.

Adult surveillance is one cornerstone of abatement activities. The district also uses past knowledge of breeding sites and new information from a public hot-line to direct activities. Trapping data is the most reliable source of information, and is used to identify problems before they become too large to control. Can also be used to focus work activities, and gauge success.

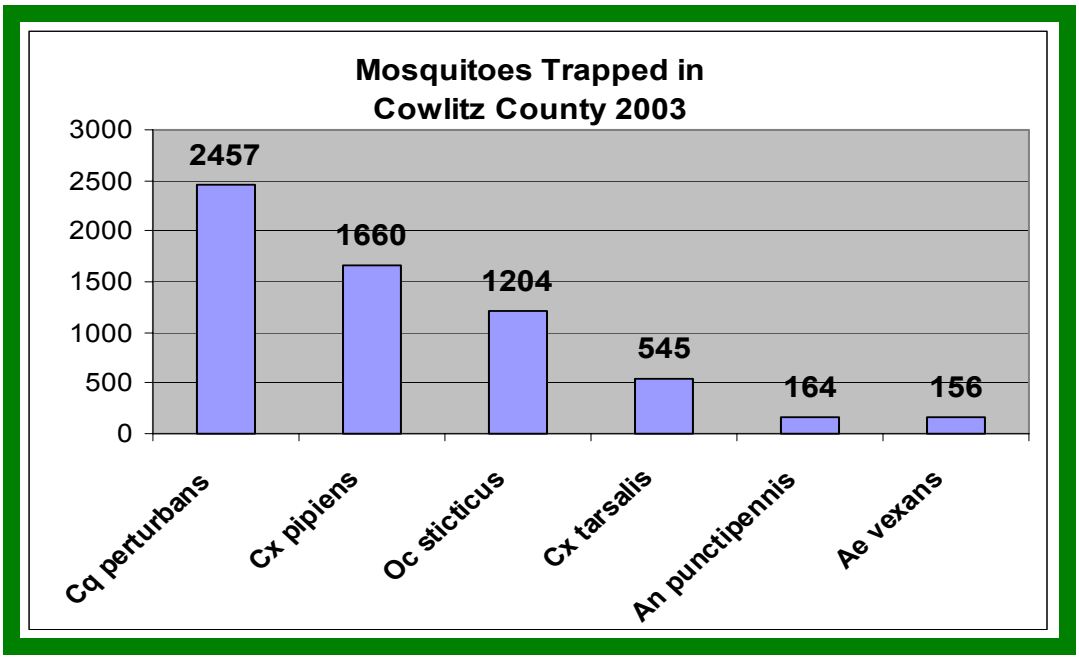
Monthly Variation: In 2003 problems began in early June and peaked mid July. This was caused by the hatching of two main species, *Coquillettidia perturbans* at Silver Lake, and in West Longview and *Ochlerotatus sticticus* in the Woodland area.



Graph 1

Numbers Trapped Each Period

Species Data: Fourteen mosquito species were identified in Cowlitz County. Of these, six were found in significant numbers. These six species have always been the major problem species. Additionally, specific species are found in certain areas year after year. This information is used to determine where and when to focus larviciding and when to begin adulticiding.



Graph 2

Most Common Species in Cowlitz County
(By number trapped)

The most prevalent species found in Cowlitz County are:

1. ***Coquillettidia perturbans*:** found around Silver Lake and near the sloughs in west Longview.
2. ***Culex pipiens*:** found in the lowland industrial area of Kelso near the Coweeman River and in Woodland / Kalama near the Columbia River.
3. ***Ochlerotatus sticticus*:** primarily found around Woodland in low farmland near the Columbia River.
4. ***Culex tarsalis*:** in lowlands of Kelso and Woodland.
5. ***Anopheles punctipennis*:** found throughout the county in small numbers.
6. ***Aedes vexans*:** found in Longview and Woodland lowland areas.

Data is Used to Identify and Solve Problems: On September 3, 2003, the district noted an overall increase in the number of mosquitoes. After examining the data, it was found that the problem was in just one area and caused by one species. The Kelso industrial area was the only location where the number of ***Culex pipiens*** greatly increased. The district immediately searched out and treated breeding sites in that area. After two weeks there was a significant improvement.

Without trapping data, district personnel would not have known of the problem or where to look for breeding sites.

Plans for 2004: With this information at hand the district is already planning its work for the 2004 season. This will include aerial treatment of known breading sites before mosquitoes hatch. Breeding sites have been identified and mapped and will be visited early and often to ensure maximum mosquito control. When adult mosquitoes pose a problem, adulticiding will be conducted in a safe and effective way. Staff will be reassigned to better cover the county based on mosquito distribution and the times of year they pose a problem.

Comparison of new trapping data will allow tracking success and adjustment of efforts to maximize effectiveness.

Communicable Disease Epidemiology Update

Although there have been more than 4600 human cases of WNV nationwide this year, there continue to be no confirmed cases acquired in Washington, Idaho, Nevada and Oregon. Surveillance and testing of birds, horses, and humans with compatible illnesses is ongoing. Last week the New England Journal of Medicine released an article titled *Transmission of West Nile Virus through Blood Transfusion in the United States in 2002*.

The URL is: http://content.nejm.org/cgi/content/abstract/NEJMoa030969v1

Mosquito Focus – *Culiseta morsitans*

Culiseta morsitans has a limited flight range and feeds primarily on birds with little affinity for humans. This species is seldom seen in Washington.

Larvae are most commonly found in semi-permanent swamps in densely wooded areas where this species deposits egg rafts on damp earth. The species will over winter if not flooded in the egg stage and early instar. *Culiseta morsitans* usually can be collected by the second or third week of April. Development in cold-water habitat is slow where the species is most common and egg hatch extends over a period of many weeks. Pupae are likely to appear by late April although larvae may remain in the habitat until late May. Adults have been collected as late as October.

Culiseta morsitans closely resembles *Culiseta minnesotae* due to the large basal tufts on the siphon. These specimens should be reared to the adult stage for confirmation.

Article Submission

We are interested in receiving articles for future publications of the WNV newsletter. Please submit articles to Jack Lilja, jack.lilja@doh.wa.gov.

Community Comments

Let us hear your comments on this newsletter, your needs, or things you would like to see, by sending them to Maryanne Guichard, (360) 236-3391 or maryanne.guichard@doh.wa.gov.

WNV Web Resources

Washington State Department of Health www.doh.wa.gov/wnv
Center for Disease Control http://www.cdc.gov/ncidod/dvbid/westnile/
Washington State University Cooperative Extention http://wnv.wsu.edu/
Cornell University, Center for Environment http://www.cfe.cornell.edu/erap/WNV
Washington State Department of Agriculture
http://agr.wa.gov/FoodAnimal/AnimalHealth/Diseases/WestNileVirus/default.htm

DOH Contact List for West Nile Virus

General Public Toll-Free Hotline 1-866-78VIRUS

Publications: Brochures/Response Plan/Fact Sheets
Laura Harper, (360) 236-3380, or laura.harper@doh.wa.gov.

Surveillance: Mosquito
Jo Marie Brauner, (360) 236-3064, or jomarie.brauner@doh.wa.gov.

Surveillance: Dead bird surveillance and general WNV response
Tom Gibbs, (360) 236-3060, or tom.gibbs@doh.wa.gov.

Surveillance: Horses, case reporting, laboratory assistance
Dr. John Grendon, (360) 236-3362, or john.grendon@doh.wa.gov.

NPDES: Training, technical assistance
Ben Hamilton, (360) 236-3364, or benjamin.hamilton@doh.wa.gov.

WNV in Humans: Clinical information, case reporting, and laboratory testing
Call your local health jurisdiction or DOH Communicable Disease Epidemiology, (206) 361-2914 or (877) 539-4344.

Assistance with news releases and media response
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